

# The Research Poster Appraisal Tool (R-PAT-II): Designing and Evaluating Poster Displays

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Poster presentations have long been used as an effective method for presenting ideas on research, education, and practice (Moneyham, Ura, Ellwood, & Bruno, 1996). Continuous quality improvement (CQI) and performance improvement (PI) initiatives also lend themselves to demonstration in a poster or storyboard fashion (Hayes & Childress, 1999). Many organizations now include poster sessions as a means of offering continuing education credit at conferences, because this approach has proven to be a legitimate, reasonable, and effective alternative to more formal educational presentations (Duchin & Sherwood, 1990).

## Development

Numerous articles have been written on creating an effective poster presentation. Some authors concentrate on the mechanics of developing poster presentations, such as content organization and presentation style (Brooks-Brunn, 1996; Hayes & Childress, 1999; Jackson & Sheldon, 1998; Taggart & Arslanian, 2000). Several others focus on aesthetic and artistic dimensions of poster presentations (Maltby & Serrell, 1998; Murray, Thow, & Strachan, 1998). In addition to the literature, the Internet is a source for information on developing and evaluating poster displays. For instance, Tosney (2001) gives examples of both effective and ineffective poster presentations, emphasizing the message the authors are attempting to convey to the reader. Two posters with the same content are compared; one with a clear message and another with a more obscure message. Hess and Liegel (2000) provide detailed information on the process of creating effective poster displays, what a poster is, examples of effective displays are provided, and useful Internet resources.

## Poster Structure

Although there is no standard structure for posters, many experts advocate organizing the content in the form of a research report. This format, however, may provide too much text for an effective visual display (Niemantsverdriet, 2004). Radel affirms that “artful illustrations, luminous colors, or exquisite computer-rendered drawings do not substitute for *content*” (1999c) and suggests a research format for poster presentations (1999b, 1999d). We adapted this approach to also include posters that highlight CQI projects and initiatives. Specifically, recommended content sequencing includes the following:

- **Title Banner.** The title should run across the top and be readable from 15–20 feet. Authors’ names and institutional affiliations should be a part of this banner but may be presented in smaller font size (Radel, 1999d).
- **Introduction/Purpose.** The introduction should identify the problem statement and the objectives and/or purpose of the study or CQI initiative and be limited to a few sentences (Niemantsverdriet, 2004).
- **Methods.** This section highlights the tools and procedures for gathering and analyzing data (Polit & Hungler, 1995). In the case of a CQI project, flow charts and timeline figures could be used to depict the sequencing of the study (personal communication, Jeff Radel, February 24, 2004).
- **Data/Results.** “The success of a poster directly relates to the clarity of the illustrations and tables” (Radel, 1999a). Pertinent findings should be highlighted, and everything that is not absolutely necessary should be deleted. Tables should be avoided as these may be difficult to read in a poster (Niemantsverdriet,

2004, p. 3). Self-explanatory graphics should be used with a minimal amount of supporting text (Radel, 1999a). Precise and simple language is crucial when creating an effective visual display.

- **Implications.** The implications section should summarize the significance of the initiative on existing or future processes and structures. In a formal presentation, the speaker can interpret findings relative to other studies (personal communication, Jeff Radel, February 23, 2004). But, in a visual display, this interpretation must be done via the written word and aesthetic design.
- **Conclusions/Outcomes.** In a poster display, the conclusions section should employ short, clear statements that highlight what has been achieved relative to the objectives. Bulleted lists are an effective way to present these findings (Niemantsverdriet, 2004). Future plans can also be included in this section.

### Poster Evaluation Tools

Even though a number of articles, and more recently Web sites, have included information on developing poster presentations, there is a dearth of information in the print literature focusing solely on effective evaluation tools that may be used to evaluate posters objectively.

#### *Tools in the Print Literature*

Bushy (1990) first addressed this deficit in an article describing a tool she developed to review poster displays for quality assurance purposes. That article was based on information gleaned from research reports along with art, educational, computer science, and marketing materials. Originally, the 30-item tool was titled QA-Poster Evaluation Tool. Bushy later revised and retitled it the Research-Poster Appraisal Tool (R-PAT; Bushy, 1991). The R-PAT has since been referenced several times in the literature (Brooks-Brunn, 1996; Maltby & Serrell, 1998; Russell, Gregory, Gates, 1996; Taggart & Arslanian, 2000). We found only one adaptation of the R-PAT in the literature review. Specifically, Moneyham, Ura, Ellwood, & Bruno (1996) designed a tool to help undergraduate nursing students develop and implement a scholarly activity

as part of a course assignment. In essence, the tool is an abbreviated version of the R-PAT. This version, however, does not meet the needs for evaluation of professional poster presentations.

#### *Tools in the Electronic Media*

To reiterate, the presenter must look beyond the print literature to the electronic media for sources. Though not plentiful, several Web sites focus on poster evaluations. Just as there is no set standard for poster structure, there is no set standard for poster evaluation tools. For evaluating posters at a conference, one tool may not be specific enough (Klitzing, 2004), while another tool may assign too much credit to a specific area (Askew, 1999). In addition, Askew recommends assigning points toward the presenter's degree of familiarity with the subject matter. This criterion, however, may not be appropriate for evaluating a research-based poster; each display should tell its "own" story. Furthermore, a poster should provide adequate information without requiring additional explanations from presenters (Russell, Gregory & Gates, 1996). A third tool (Earlham College, 2002) is designed to rate only research studies and not CQI projects. Several items in this tool focus on the literature cited, which generally does not lend itself to being displayed in a poster. A hand-out of relevant references might be more appropriate to augment the poster. Another tool, the "60-second Poster Evaluation" (Hess, 1999), includes similar items to those of R-PAT I (Bushy, 1991).

Garrison also investigated other poster evaluation tools used by similar organizations. Susan Westergard (personal communication, February 19, 2004), Senior Manager of Learning Offerings for the American Society for Quality (ASQ), stated that ASQ does not exhibit posters by the membership at its conventions. Garrison (personal communication, Jan 28, 2004) also spoke with Julie Wolter, Chair, 2004 National Meeting Planning Committee for the American Health Information Management Association (AHIMA). AHIMA does utilize poster displays, but does not use a grading tool to evaluate those presentations.

Currently, the available tools (e.g., print and electronic) used to evaluate poster displays are for the most part "elaborate questionnaires"

**Figure 1. Research Poster Appraisal Tool (R-PAT)**

**DIRECTIONS**

The R-PAT contains 30 items that are arranged in three subcategories. The subcategories focus on: (A) overall appearance, (B) content, and (C) presentation. To systematically evaluate a poster, circle the number that best describes the degree to which each item fits the poster. The rating scale ranges from 1 to 5. (5 = very good, 4 = good, 3 = passable, 2 = poor, 1 = absent). In appraising a poster, give only one rating to each criterion. If you rate an item 3 or less, include a comment to summarize your observations about that criterion. Also, include remarks about the strengths of the display. If an item is not applicable, circle, N/A.

After you have responded to all the items, tally those in each category to obtain a subscore. Then, add the three subscores to obtain the grand score. The higher the score, the better the quality of a poster. Finally, consider your numerical ratings, as well as your written comments and compile a summary statement, highlighting the strengths and limitations of a poster.

General Information

Name of Poster Display: \_\_\_\_\_

Name/Number Identifying Presenter: \_\_\_\_\_

Date: \_\_\_\_\_

Name/Number of Rater: \_\_\_\_\_

Grand Score Rating: \_\_\_\_\_

Criteria	Rating & Comments
<b>Category A: Overall Appearance</b>	
1. Does the display attract viewers' attention?	1 2 3 4 5 N/A
2. Does the display hold viewers' attention?	1 2 3 4 5 N/A
3. Is the display free of unnecessary detail?	1 2 3 4 5 N/A
4. Are appropriate color combinations used?	1 2 3 4 5 N/A
5. Is there an appealing arrangement of script and graphics?	1 2 3 4 5 N/A
6. Is there appropriate use of white space to avoid crowding?	1 2 3 4 5 N/A
7. Is the script visible from 4 to 5 feet?	1 2 3 4 5 N/A
8. Is the content accurate?	1 2 3 4 5 N/A
	SUBSCORE A: _____
<b>Category B: Content</b>	
9. Is the content logically organized?	1 2 3 4 5 N/A
10. Is the content clear and easy to understand?	1 2 3 4 5 N/A
11. Is the information relevant?	1 2 3 4 5 N/A
12. Is the information current?	1 2 3 4 5 N/A
13. Are the handouts relevant?	1 2 3 4 5 N/A
14. Are the graphics relevant?	1 2 3 4 5 N/A
15. Are the graphics clearly titled?	1 2 3 4 5 N/A
16. Are the calculations correct?	1 2 3 4 5 N/A
17. Is the display free of spelling errors?	1 2 3 4 5 N/A
18. Is the display free of grammatical errors?	1 2 3 4 5 N/A
19. Is the title clearly stated to include the variables that were investigated?	1 2 3 4 5 N/A
20. Is the purpose stated?	1 2 3 4 5 N/A
21. Is the method succinctly described?	1 2 3 4 5 N/A
22. Are the results highlighted in such a way so they make sense to the reader?	1 2 3 4 5 N/A
23. Are implications for nursing described?	1 2 3 4 5 N/A
24. Is the author's name cited?	1 2 3 4 5 N/A
25. Is the display readable?	1 2 3 4 5 N/A
	SUBSCORE B: _____
<b>Category C: Presentation</b>	
26. Rate the author's availability to respond to viewers' questions.	1 2 3 4 5 N/A
27. How knowledgeable was the author on the subject matter?	1 2 3 4 5 N/A
28. Rate the professional presence of the author.	1 2 3 4 5 N/A
29. How well does the poster fit with the conference theme?	1 2 3 4 5 N/A
30. How well does the poster disseminate its information?	1 2 3 4 5 N/A
	SUBSCORE C: _____
	GRAND SCORE (A + B + C): _____

**SUMMARY COMMENTS**

Strengths:

Weaknesses:

**Figure 2. Research Poster Appraisal Tool (R-PAT II)**

**DIRECTIONS**  
 The R-PAT II contains 10 items that are arranged in two subcategories. The subcategories focus on: (A) overall appearance & (B) content. To systematically evaluate a poster, circle the number that best describes the degree to which each item fits the poster. The rating scale ranges from 1 to 5. (5 = very good, 4 = good, 3 = passable, 2 = poor, 1 = absent) In appraising a poster, give only one rating to each criterion. If you rate an item 3 or less, include a comment to summarize your observations about that criterion. If an item is not applicable, circle N/A.

After you have responded to all the items, tally those in each category to obtain a subscore. Then, add the two subscores to obtain the grand score. The higher the score, the better the quality of a poster. Finally, consider your numerical ratings as well as your written comments and compile a summary statement, highlighting the strengths and limitations of a poster.

General Information

Name of Poster Display: \_\_\_\_\_

Name/Number Identifying Presenter: \_\_\_\_\_

Date: \_\_\_\_\_

Name/Number of Rater: \_\_\_\_\_

Criteria	Rating & Comments
<b>Category A: Overall Appearance</b>	
1. The display attracts & holds the viewers' attention.	1 2 3 4 5 N/A
2. The display is free of unnecessary detail	1 2 3 4 5 N/A
3. The poster is viewable from 4-5 feet	1 2 3 4 5 N/A
4. There is an appealing arrangement of script & graphics	1 2 3 4 5 N/A
<b>SUBSCORE A</b>	_____
<b>Category B: Content</b>	
5. The purpose of the poster is clearly identified	1 2 3 4 5 N/A
6. The content of the poster is relevant to the purpose	1 2 3 4 5 N/A
7. The graphics are relevant to the content	1 2 3 4 5 N/A
8. The results or outcomes are highlighted and make sense to the reader	1 2 3 4 5 N/A
9. The content of the poster is current	1 2 3 4 5 N/A
10. The abstract is relevant to poster content	1 2 3 4 5 N/A
<b>SUBSCORE B</b>	_____
<b>GRAND SCORE (A + B):</b> _____	
<b>SUMMARY COMMENTS</b>	
Strengths:	
Weaknesses:	

(Biancuzzo, 1994). Essentially, an extensive list of criteria makes it difficult to evaluate professional poster displays objectively and quickly in the absence of the authors or presenters. We conclude that R-PAT refinements are needed to reflect current technological capabilities and also the assertion that posters must “show” rather than “tell” (Miracle & King, 1994).

**R-PAT Revisions**

In light of the information deficit and as a result of conducting a literature search on print and electronic sources, the R-PAT was refined (Figure 1) to reflect current trends. The goal was to develop a tool that may be used

effectively to appraise research and CQI and PI posters at a national conference, specifically the National Association for Healthcare Quality 29th Annual Educational Conference (Figure 2).

Although the original version (R-PAT) provided an objective means of evaluating poster presentations, it was too lengthy and consisted of three major categories (i.e., 30 items). The new version (i.e., R-PAT II) contains only two of the original three categories, or 10 items (i.e., overall appearance and content). The third category, presentation, was omitted, since a poster should depict the story. Several of the original questions in the two

remaining categories were also combined, thus shortening the tool. The R-PAT II was modified further so each item is more a performance standard rather than a question.

One new item has been included in R-PAT-II, specifically, “presence of an abstract.” The reason for inclusion of this component is that most conference organizers require submission of an abstract for poster presentations, as well as for oral presentations. Subsequent to peer review, if the abstract is accepted, it is typically published in conference proceedings. Thus, the poster abstract should be consistent with conference abstract guidelines for oral presentations (Miracle & King, 1994).

The grading or rating schema remains the same in R-PAT II. Specifically, each performance standard is still graded on a Likert-type scale (from 0 to 4). The Likert Scale has been changed to 0 = *absent*, 1 = *poor*, 2 = *fair*, 3 = *good*, and 4 = *excellent*. In turn, each of the two categories receives a subscore. A grand score is determined by adding the two subscores—ranging from 1 to 50 points—with a higher score interpreted as a poster with better content quality than others in that particular group.

In R-PAT, a section titled Summary Comments allows for qualitative feedback from the rater (i.e., strengths, weaknesses). This section is also included in the updated version of the tool.

In conclusion, as health professionals share information and scholarly work through poster sessions, the R-PAT-II may be used to evaluate professional posters at local, regional, national, and international events objectively. The R-PAT II lists essential criteria that may be used both to create and rate posters for a variety of purposes including research, education, and CQI and PI initiatives.

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# Quality Toolbox